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H. J.

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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09/201,883 11/30/98 MATSUMOTO

K 0052512

TM02/1116
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| EXAMINER |
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| TRAN, H | |
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| ART UNIT | PAPER NUMBER |

2674

DATE MAILED:

11/16/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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Office Action Summary

Application No.

09/201,883

Applicant(s)

MATSUMOTO ET AL.

Examiner

HENRY N. TRAN

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 1998.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7 is/are rejected.
- 7) ☐ Claim(s) 5 and 6 is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5.
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

DETAILED ACTION

This application has been examined. Original claims 1-7 are pending. The objections and rejections cited are as stated below.

Information Disclosure Statement

1. The references listed on the information disclosure statement filed on 5/19/00 (paper no. 4) and on 2/16/00 (paper no. 5) have been considered by the examiner (see attached forms PTO-1449).

Oath/Declaration

2. The supplemental oath or declaration and power of attorney submitted on 5/19/99 has been considered by the examiner.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haim et al (U.S. Patent No. 5,402,141) in view of Yanagawa et al (U.S. Patent No. 5,870,160).

Haim et al teach an active matrix liquid crystal display device (AMLCD) including a color-filter layer of red (R) (RED color filter 53), Green (G) (GREEN color filter 52) and Blue (B) (BLUE color filter 51) to color light transmitted therethrough, wherein fieldthrough of respective color layer (R,G,B) of said color filter layer is equalized (by equalizing the DC offset

voltage ΔV (the offset voltages Delta V), or equalizing the product of $\epsilon \times H$ (by equalizing the capacitance values for the color filter values using different cell gaps for individual wavelengths defined in the multigap LCD technology) (the multigap LCD technology utilizes different thickness of different color filter layers; which also varies the active-element-side holding capacitance C_{LC} ; and the sum of color-layer capacitance and the capacitance at each of the color layer (R, G, B) is therefore compensated); or applying electrical signals to each of the color layers (R, G, B) in the color filters to make a different in the central value of drain signal voltages, or in the amplitude of drain signal voltages for the respective layers (applying gates signals so that bias voltages or offset voltages are different in each of the color filters) (see abstract, col. 3, lines 3-41, columns. 4-7, and Figs. 3-5). However, Haim et al do not show an AMLCD having a structural arrangement wherein no electrode is formed on the color-filter-formed substrate, an external control means for applying an alternating-current voltage for controlling the applied electric field based on a display pattern. Yanagawa et al show an AMLCD having a structural arrangement wherein no electrode is formed on the color-filter-formed substrate (SUB2), an external control means (CONTROLLER) for applying an alternating-current voltage for controlling the applied electric field based on a display pattern (see Fig. 8, 16, 18 and 19). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Haim and of Yanagawa as discussed above for producing the claimed invention; because this would improve the performance of an AMLCD (see Haim, col. 2, lines 10-63).

Allowable Subject Matter

5. Claims 5 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

The prior arts made of record and not relied upon are considered pertinent to applicant's disclosure (see forms PTO-892). However, none of the cited references, either singularly or in combination, teach or fairly suggested an AMLCD having a structural arrangement as defined in claim 4, wherein the difference in the central value of drain signal voltages or the resistivity Y of the color layers are set to satisfy the relation as specified in claims 5 or 6, respectively.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See form PTO-892

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENRY N. TRAN whose telephone number is (703) 308-8410. The examiner can normally be reached on Mon - Fri from 8:30 AM - 5:00 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, RICHARD A. HJERPE can be reached on (703) 305-4709. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-9051 for regular communications and (703) 308-9052 for After Final communications.

Art Unit: 2674

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800.

HENRY N. TRAN *HT*
Examiner
Art Unit 2674

November 9, 2000


RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600